REFRIGERATORS

2006 PARTNER RESOURCE GUIDE

ENERGY STAR

SECTION I : CONSUMER INFORMATION

CHANGE FOR THE BETTER WITH ENERGY STAR

ENERGY STAR is a government-backed program that helps consumers identify the most energy-efficient products.

This document is designed to help partners promote new ENERGY STAR® qualified refrigerators and the retirement (and recycling) of pre-1993 refrigerators. Data and messaging is provided for both primary (kitchen) and secondary (garage/basement) applications.

- Section I includes the latest consumer messaging on product features and benefits, as well as fun facts, recycling information, and usage tips.
- Section II summarizes the most recent data on ENERGY STAR market share, ENERGY STAR criteria, energy savings, and cost effectiveness.

ADVANCED TECHNOLOGY

Refrigerator efficiency has improved dramatically since 1993. New ENERGY STAR qualified models include several technical innovations that reduce energy consumption and improve performance. This includes high-efficiency compressors, improved insulation, and more precise temperature and defrost mechanisms.

MORE PRECISE TEMPERATURE AND DEFROST MECHANISMS

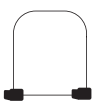
Help the refrigerator operate more efficiently, while ensuring food is kept at the optimum temperature.

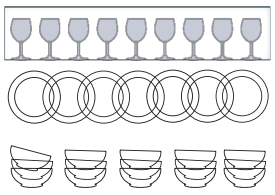
IMPROVED INSULATION

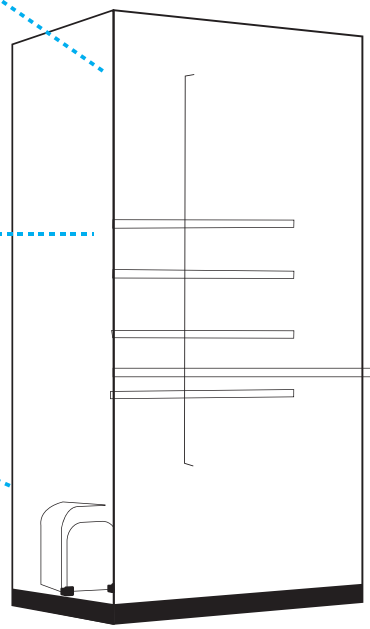
Located in doors and exterior walls to help food

HIGH EFFICIENCY COMPRESSORS

Use less energy to operate the refrigerator, often are quieter than regular compressors, and create less heat while they are running.







DOLLAR SAVINGS AND OTHER BENEFITS

HOW MUCH IS THAT 6-PACK COSTING YOU?

If you have an older refrigerator in your basement or garage, it could be costing you over $90, per year to keep it running. That is a stiff price to pay to keep extra beverages cool. DOE recommends that consumers do one of the following:

- Retire and recycle pre-1993 refrigerators permanently. You could use the energy bill savings to buy 20 twelve packs of soda. You'll also reclaim valuable storage space for other household items.
- If you only need extra food storage around holidays or special events, you could keep the old refrigerator but only plug it in when needed. Leaving it off for 10 months of the year can save over $75.
- For families that truly need a second refrigerator year round, replace the old one with a new ENERGY STAR unit and save nearly $50 per year. Pick the smallest size to maximize savings. If you only need a little bit of extra space, a qualified compact refrigerator might be the best choice and you'll save even more—almost $65 per year.

WANT TO LEARN MORE?

If you would like to know more about energy and money savings for a specific refrigerator model, visit www.energystar.gov/refrigerators and follow the link to the new ENERGY STAR Refrigerator Retirement Calculator.

GOODBYES ARE HARD. ENERGY STAR MAKES IT SIMPLE.

If your main kitchen refrigerator was manufactured before 1993, it might be time to say goodbye. While it may seem wasteful to get rid of something that works, it is a smart financial decision and has many other benefits.

- **SAVE MONEY**
  Replacing a refrigerator manufactured prior to 1993 with a new ENERGY STAR qualified one can save you nearly $50 per year on your energy bill.
- **SAVE ENERGY**
  A new ENERGY STAR qualified refrigerator uses half as much energy as one made prior to 1993. New models use less energy than a 75-watt light bulb.
- **SAVE THE ENVIRONMENT**
  Because they use less energy, ENERGY STAR qualified refrigerators help reduce air pollution and greenhouse gases caused by burning fossil fuels.
- **SAVE YOUR EARS**
  More insulation and better compressors mean ENERGY STAR qualified refrigerators often run quieter than older models.
- **SAVE YOUR FOOD**
  Advanced temperature controls and special compartments help keep perishable foods cold so they stay fresh longer.

FOR MORE INFORMATION	
STEEL RECYCLING INSTITUTE	www.recycle-steel.org
INSTITUTE OF SCRAP RECYCLING INDUSTRIES	www.isri.org
EARTH 911	www.earth911.org

Recycling one ton of steel—about the amount in 27 full-sized refrigerators—saves 2,500 pounds of iron ore, 1,400 pounds of coal, and 120 pounds of limestone. Fortunately, 92% of the steel in major appliances is recycled in the U.S. every year.

PRODUCT RECYCLING

WHY RECYCLE?

The typical appliance contains about 75 percent steel, which can be recycled into cans, new cars, or any number of other steel products. Steel recycling also conserves precious natural resources. According to the Association of Home Appliance Manufacturers (AHAM), it takes four times more energy to manufacture steel from virgin ore as it does to make the same steel from recycled scrap.

Refrigerators also include a refrigerant, such as Freon, that must be captured by a certified technician to ensure it isn't released into the air where it can damage the ozone layer.

HOW DO I RECYCLE MY OLD APPLIANCE?

Your local solid waste organization, garbage company, or municipal government may take used appliances for a small charge or offer free curb side pickup on certain days. According to the Appliance Recycling Information Center, there are 11,000 appliance-recycling locations nationwide. Use the Steel Recycling Institute's database (www.recycle-steel.org/database) to find the recycling facility closest to you. You can also call 1-800-YES-1-CAN.

ENERGY SAVING TIPS

To minimize the energy use of your refrigerator, consider the following:

- Position your refrigerator away from a heat source such as the oven or direct sunlight from a window.
- Allow air to circulate around the condenser coils. Leave a space between the wall or cabinets and the refrigerator or freezer. Keep the coils clean.
- Make sure the door seals are airtight.
- Keep your refrigerator between 35 and 38 degrees Fahrenheit and your freezer at 0 degrees Fahrenheit.
- Minimize the amount of time the refrigerator door is open.
- When purchasing a new refrigerator, select the smallest size possible to meet your needs. For second refrigerators, consider a compact mini-fridge instead of a full sized model.

FUN FACTS

RETIRING

Retiring the old refrigerator in your garage or basement can save more than $90 per year. Over 5 years, that's enough money to buy:

- 100 twelve-packs of soda
- A new circular saw, rotary hammer, cordless power drill, and finishing sander
- A new portable basket ball hoop
- 100 new ENERGY STAR qualified light bulbs
- A new computer
- A new pool table
- A new ping-pong table and a new air hockey table

REPLACE WITH COMPACT

Replacing the old refrigerator in your garage or basement with a new ENERGY STAR qualified compact refrigerator can save almost $65 per year. Over 5 years, that's enough money to buy:

- A new ENERGY STAR qualified compact refrigerator
- 70 twelve-packs of soda
- A new air hockey table
- A new Playstation 2 along with seven games

REPLACE WITH FULL SIZE

Replacing your old full size refrigerator with a new ENERGY STAR qualified model can save nearly $50 per year. Over 5 years, that is enough money to buy:

- A new 32" television
- A new 15" LCD television
- Two new microwave ovens
- A new 23" gas-powered lawn mower
- A new five mega pixel digital camera

2005 ENERGY STAR REFRIGERATOR MARKET SHARE*

Alaska/Hawaii	41%
California	43%
Lower Midwest	26%
Mid-Atlantic	32%
New England	44%
New York	38%
Northwest	39%
South/Southeast	28%
Southwest/Rockies	37%
Upper Midwest	32%

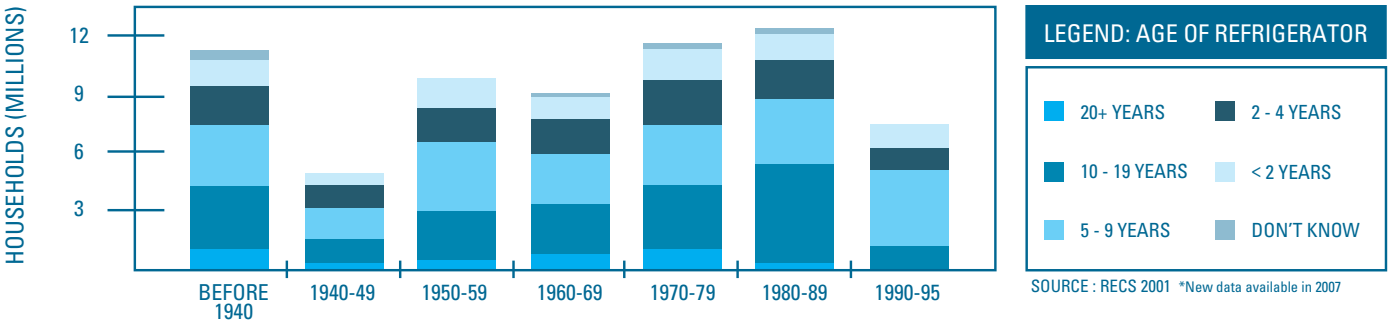
*Figures are based on 2005 sales data received from ENERGY STAR national retail partners.

HOUSEHOLD SATURATION

The U.S. Department of Energy estimates that 125 million refrigerator and refrigerator-freezer units are currently in use in the U.S., with about 33% of those units being ENERGY STAR qualified.

- Of the existing stock of refrigerators in U.S. homes, approximately 25% (31 million) were manufactured prior to 1993.[1]
- As of 2001, there were about 14 million pre-1993 secondary refrigerators in use in U.S. homes.[2]
- As of 2001, there were 18.1 million households that had two or more refrigerators.

PRIMARY REFRIGERATORS BY AGE OF REFRIGERATOR AND YEAR HOME BUILT



SOURCE : RECS 2001 *New data available in 2007

[1] U.S. Department of Energy: Energy Efficiency and Renewable Energy "Emerging Technologies: Appliance Research and Development" (http://www.eere.energy.gov/buildings/tech/appliances/).

[2] Residential Energy Consumption Survey (RECS), U.S. Department of Energy, 2001.

COST EFFECTIVENESS

- Average lifetime of new refrigerator = 13 years[3]
- ENERGY STAR price premium = $30 - $100
- Time to recover initial investment = 2 - 6 years
- ENERGY STAR full-size refrigerator price range = $400 - $5,000+[4]
- Conventional full-size refrigerator price range = $300 - $5,000+[5]
- Average annual degradation in efficiency = 1.37%[6]

ENERGY STAR CRITERIA (JANUARY 1, 2004)

PRODUCT CLASS	% BETTER THAN FEDERAL STANDARD
REFRIGERATORS, REFRIGERATOR/FREEZER > 7.75 ft^3	15%
FREEZERS > 7.75 ft^3	10%
REFRIGERATORS, REFRIGERATOR/FREEZER < 7.75 ft^3 (COMPACT)	20%

ANNUAL ENERGY STAR SAVINGS PER UNIT

	PRE - 1993 SECONDARY REFRIGERATOR RETIRED BUT NOT REPLACED	PRE - 1993 SECONDARY REFRIGERATOR REPLACED WITH A NEW ENERGY STAR QUALIFIED COMPACT REFRIGERATOR	PRE - 1993 REFRIGERATOR REPLACED WITH A COMPARABLE NEW ENERGY STAR QUALIFIED MODEL
CURRENT kWh	978	978	978
NEW kWh	0	297	457
ANNUAL SAVINGS (kWh)	978	681	521
ANNUAL SAVINGS ($)[7]	$90	$65	$50

[3] "28th Annual Portrait of the U.S. Appliance Industry" *Appliance Magazine* September 2005.
[4] Based on data from national retailer Web sites, 2006.
[5] Ibid.
[6] Miller, J.D. and Pratt, R.G. "Estimates of Refrigerator Loads in Public Housing Based on Metered Consumption Data" Pacific Northwest National Laboratory 1998.
[7] Energy costs based on national average electric rate of $0.093 from Energy Information Administration (DOE), 2005.

United States
Department of Energy

For more information visit
www.energystar.gov/refrigerators
1.888.STAR.YES (1.888.782.7937)